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Agency

Airspace Optimization for Readiness at Mountain Home Air Force Base

Regional Administrator's Office, Policy and Environmental Review Branch

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NEPA Review Team

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Topics to cover

- Introduction
- Project leadership and location
- Proposed action and alternatives
- Resources
- Potential impacts and comment topics
- Questions/Discussion

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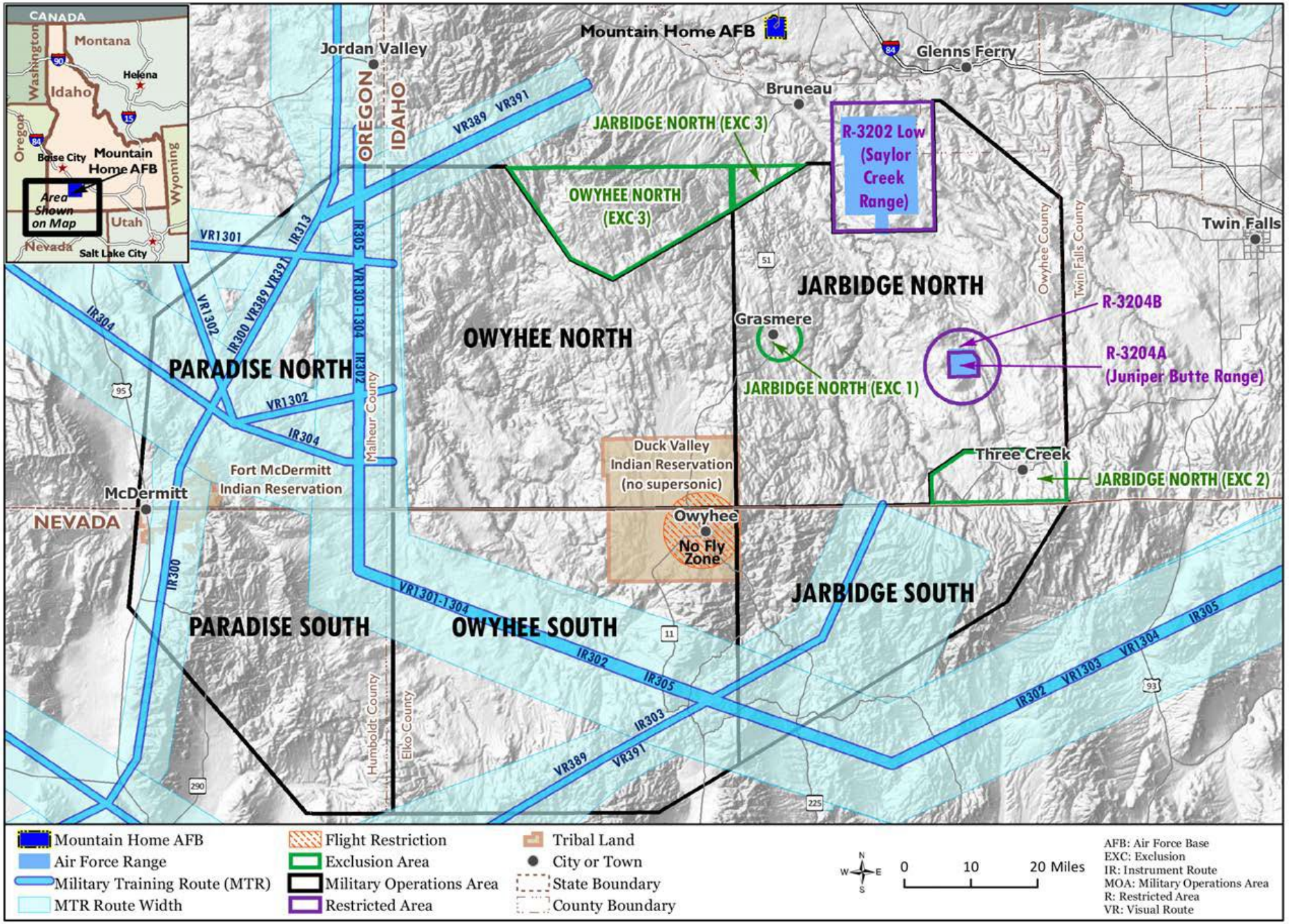
Project Leadership

- Lead agency:
  - US Dept of the Air Force
- Cooperating agencies:
  - Federal Aviation Administration
- Contractor: Leidos, Albuquerque, NM
- Public comments due date: August 23, 2021
- DEIS on the web: https://www.mountainhomeafbairspaceeis.com/announcements.aspx

Project Location

- Mountain Home Air Force Base Special Use Airspace or SUA (ID, OR, NV)
  - Counties: Elmore, Owyhee, and Twin Falls in ID; Elko and Humboldt in NV; and Malheur in OR
  - Six Military Operation Areas: Paradise North/South; Owyhee North/South; and Jarbidge North/South
  - Reservations/Tribes:
    - Duck Valley Indian Reservation, ID
    - Burns Paiute, OR
    - Fort McDermitt Indian Reservation, NV
  - Land Managers under SUA: BLM; BIA; USFS; BOR; DoD; DOE; ID; OR; other
  - Region is remote, natural, and undeveloped land of the Great Basin Desert with uses dominated by cattle grazing, mining, outdoor recreation, and hunting
  - Presence of federally and state protected species (ESAs, Threatened, other)


CANADA
Montana
Washington
Idaho
Helena
Oregon
Boise City
Mountain Home AFB
Area Shown on Map
Wyoming
Utah
Nevada
Salt Lake City
Mountain Home AFB
Jordan Valley
OREGON
IDAHO
Glenns Ferry
Bruneau
JARBIDGE NORTH (EXC 3)
R-3202 Low (Saylor Creek Range)
OWYHEE NORTH (EXC 3)
Twin Falls
VR389 VR391
VR1301
IR313
IR305
IR304
VR1302
IR300
JARBIDGE NORTH
Owyhee County
Twin Falls County
R-3204B
Grasmere
OWYHEE NORTH
R-3204A (Juniper Butte Range)
JARBIDGE NORTH (EXC 1)
PARADISE NORTH
Malheur County
Duck Valley Indian Reservation (no supersonic)
Three Creek
JARBIDGE NORTH (EXC 2)
Fort McDermitt Indian Reservation
McDermitt
NEVADA
Owyhee
No Fly Zone
IR300
VR1301-1304
JARBIDGE SOUTH
PARADISE SOUTH
OWYHEE SOUTH
IR302
IR305
IR303
VR1303
VR1304
Humboldt County
Elko County
VR389
VR391
Mountain Home AFB
Air Force Range
Military Training Route (MTR)
MTR Route Width
Flight Restriction
Exclusion Area
Military Operations Area
Restricted Area
Tribal Land
City or Town
State Boundary
County Boundary
0 10 20 Miles
AFB: Air Force Base
EXC: Exclusion
IR: Instrument Route
MOA: Military Operations Area
R: Restricted Area
VR: Visual Route

Proposed action, alternatives

- DAF needs to provide realistic training airspace for readiness in countering and defeating advanced air and ground threats
- DAF will adjust SUA to allow sub-/super-sonic low-altitudes aircraft training
- Impacts analysis evaluates 5 action alternatives and a no action
  - No action: operational floors at 100 ft., 3,000 ft., and 10,000 ft. AGL
  - Alt 1 – 3 (**subsonic**): operational floors at 100, 300, 500 ft. AGL, respectively

    (2% annual sorties increase: nighttime = 2072; daytime =13,784)
  - Alt A-B (**supersonic**): operational floors at 5,000 and 10,000 ft. AGL, respectively

    (2% annual events increase): 29,299 under A and 24873 under B
  - Alt 1-3 can be combined with Alt A and B
  - Chaff/flares are used to obscure aircrafts from radar view and avoid detection
  - No Preferred Alternative

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Table 2.5-1. Existing and Alternative Low-Altitude Floors and Supersonic Floors[1]

MOA Airspace	(Existing) No Action Low-Altitude Floor (ft AGL)	Alternative 1 Low-Altitude Floor (100 ft AGL)	Alternative 2 Low-Altitude Floor (300 ft AGL)	Alternative 3 Low-Altitude Floor (500 ft AGL)	Alternative A 5,000-foot AGL Supersonic Floor	Alternative B 10,000-foot AGL Supersonic Floor
Owyhee North[a]	100	100	100	100	Alternative A or B could be combined with Alternative 1, 2, or 3.	
Jarbidge North[a]	100	100	100	100		
Paradise North[b]	3,000	100	300	500		
Paradise South[b]	3,000	100	300	500		
Owyhee South[b]	3,000	100	300	500		
Jarbidge South[b]	3,000	100	300	500		
Supersonic Flight Altitude Floor						
Owyhee North[a,c]	10,000 AGL	Alternative 1, 2, or 3 could be combined with Alternative A or B.			5,000	10,000
Jarbidge North[a,c]	10,000 AGL				5,000	10,000
Paradise North	30,000 MSL				5,000	10,000
Paradise South	30,000 MSL				5,000	10,000
Owyhee South	30,000 MSL				5,000	10,000
Jarbidge South	30,000 MSL				5,000	10,000

Focused resource analysis

Table 3.1-1. Resources Analyzed or Not Carried Forward for Detailed Analysis

Resource per DAF Requirements	Detailed Analysis	Resource per FAA Requirements	Detailed Analysis
Airspace Operations and Management	Yes	(no corresponding resource area for the FAA)	
Acoustic Environment (Noise)	Yes	Noise and Noise Compatible Land Use	Yes
Land Use and Management[a]	Yes	Land Use	Yes
Biological Resources	Yes	Biological Resources (including fish, wildlife, and plants)	Yes
Cultural Resources	Yes	Historical, Architectural, Archaeological, and Cultural Resources	Yes
Health and Safety	Yes	(no corresponding resource area for FAA)	
Aesthetics and Visual Resources	Yes	Visual Effects	Yes
Air Quality	Yes	Air Quality, Climate	Yes
Socioeconomics	Yes	Socioeconomics, Environmental Justice, and Children's Health and Safety Risks	Yes
Environmental Justice	Yes		

Potential impacts

Table 3.3-3. L_{dnmr} and DNL Under Baseline Conditions

Airspace	Representative Point of Interest	In MTR Corridor[a]	In Year-Round Avoidance Area (Minimum Overflight Altitude)[b]	L_{dnmr} (dBA)[c]	DNL (dBA)
Jarbidge North	Tindall Ranch	No	No	64	62.5
	Hart Ranch	No	Exclusion 1 (1,500 feet AGL)	53.5	53.5
	Three Creek	No	Exclusion 2 (2,000 feet AGL)	52	52
	Exclusion 3[d]	No	Exclusion 3 (500 feet AGL)	61.5	61
	Uncharted airport	No	1,500 feet AGL	53.5	53.5
Jarbidge South	Jarbidge	Yes[a]	No	48	48
	Spring Creek Ranch	Yes	No	49.5	49.5
Owyhee North	Star Ranch	No	No	64.5	63
	Juniper Station	No	Exclusion 3 (500 feet AGL)	62.5	62.5
	45 Ranch	No	1,500 feet AGL	54.5	54.5
	Campground	No	1,500 feet AGL	54	54
	Riddle Airport	No	1,500 feet AGL	54.5	54.5
	Riddle Ranch	No	1,500 feet AGL	54.5	54.5
	Owyhee	No	No-fly zone	<35	<35
Owyhee South	Andrae Ranch	No	No	47	47
	Deep Creek Ranch	Yes	No	50	49.5
	Owyhee	No	No-fly zone	<35	<35
Paradise North	Tenmile Ranch	No	No	50.5	50.5
	Circle Bar Ranch	Yes	No	52	51.5
Paradise South	Lye Creek Campground	No	No	47	47
	Fort McDermitt, local medical services	Yes	No	48.5	48
R-3202[e]	Uniform distributed sound level[d]	No	No	67	66
R-3204[f]	Juniper Ranch	No	No	66	65

- EPA identifies 55 dB DNL threshold for protecting human health/welfare
- 65 dB DNL is commonly used threshold. US Army Public Health recommends 57-62 for noise sensitive land uses
- FAA recommends reporting noise changes of 3 dB DNL or more for 60-65 dB DNLs levels; and 5 dB changes for 45-60.
- DNL/L_{dnmr} is the metric used in DEIS as it reflects aircraft operations. DNL due to FAA approval.

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Table 3.3-4. Maximum Noise Levels (L_{max}) in Common Training Airspace Configuration

Aircraft (engine type)	Power Setting[a]	Power Unit	Speed (knots)	L_{max} Values (in dBA) at Varying Distances from Aircraft (in feet AGL)[b]									
				100	300	500	1,000	1,500	2,000	3,000	5,000	10,000	15,000
F-15E (PW229) or surrogate for F-15SG[c]	Afterburner (91%)	NC	350	139	129	124	116	111	107	102	95	85	79
	90%	NC	350	128	118	113	106	101	98	93	87	76	69
	85%	NC	350	115	105	100	93	89	86	81	74	65	58
A-10A	5,333	NF	300			95	87	82	78	72	65	55	48
F-16	99%	NC	475	135	124	119	111	107	103	98	91	80	73
F/A-18E	91%	NC	400			117	110	105	102	97	90	79	72
F-35A[d]	90%	ETR	425	Altitudes not used regularly by the particular aircraft type are shaded gray.							89	77	70
B-1B	101%	RPM	450			113	106	102	98	93	86	75	67
C-17A	1.25	EPR	250				89	84	80	74	66	57	51
C-130J	2,200	HP	250	111	105	96	88	84	80	75	68	57	51
T-6	100%	RPM	250			85	78	74	71	67	61	52	47
KC-135R	86.60%	NC	240										49

Key: % = percent; AGL = above ground level; dBA = A-weighted decibels; EPR = engine pressure ratio; ETR = engine thrust request; HP = horsepower; L_{max} = maximum

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Table 3.3-6. Individual F-15 Sonic Boom Overpressures Under Baseline Conditions

Altitude (feet AGL)	Overpressure Experienced at Ground Level (psf)[a, b]	
	Directly Beneath Flight Path	Aircraft at 45 degrees from Directly Overhead
10,000	4.4	3.2
15,000	3.1	2.1
20,000	2.3	1.5
25,000	1.9	0.0

Key: AGL = above ground level; psf = pounds per square foot

Table 3.3-11. Individual F-15 Sonic Boom Overpressures Under Alternative A

Approximate Altitude (feet AGL)	F-15E Straight and Level Flight Peak Overpressure Experienced at Ground Level[a] (psf)	
	Directly Beneath Flight Path	Aircraft at 45 Degrees from Vertical
5,000	7.7	5.8
10,000	4.4	3.2
15,000	3.1	2.1
20,000	2.3	1.5
25,000	1.9	0.0

Key: AGL = above ground level; psf = pounds per square foot

a. Overpressures presented reflect straight and level flight at constant speed of Mach 1.2. Aircraft maneuvers may generate localized "focus booms" with overpressures of 2 to 5 times the magnitude of the steady-state sonic booms (Plotkin, 1990a). Calculations reflect United States' standard atmosphere and a representative ground elevation of 5,000 feet mean sea level (MSL). See Section 3.3.2.2 (Affected Environment, Supersonic Aircraft Noise) for a discussion of focus booms.

EJ impacts

Table 3.11-3. Potential for Disproportionate Impacts on Minority and Low-Income Populations in Block Groups[a]

Region	Minority			Low Income		
	Individuals	Percent	Disproportionate	Individuals	Percent	Disproportionate
CT 960100[b]	815	28.0%	--	692	23.8%	--
BG 2, CT 960100	393	31.4%	Yes	169	13.5%	No
CT 950200	843	23.2%	--	628	17.5%	--
BG 1, CT 950200	414	24.4%	Yes	269	16.3%	No
BG 3, CT 950200	63	12.3%	No	24	4.7%	No
BG 4, CT 950200	115	19.7%	No	91	15.6%	No
BG 5, CT 950200[c]	172	98.9%[c]	Yes	117	67.2%[c]	Yes
CT 001500	458	17.8%	--	348	13.5%	--
BG 3, CT 001500	0	0.0%	No	32	12.5%	No
CT 951700	2,074	69.7%	--	1208	40.9%	--
BG 1, CT 951700[c]	1,138	96.7%[c]	Yes	364	31.5%[c]	No
BG 2, CT 951700	32	14.7%	No	31	14.3%	No
CT 010500	1,843	31.9%	--	493	8.7%	--
BG 1, CT 010500[d]	542	41.5%[d]	Yes	234	17.9%[d]	Yes
CT 010600	800	32.6%	--	546	22.2%	--
BG 1, CT 010600	412	32.3%	No	321	25.1%	Yes
CT 940000	0	0.0%	--	0	0.0%	--
BG 1, CT 940000[d]	0	0.0%[d]	No	0	0.0%[d]	No
CT 970900	1,679	28.2%	--	397	14.3%	--
BG 2, CT 970900	70	9.8%	No	66	9.7%	No

Source: (USCB, 2018a; USCB, 2018g; USCB, 2018h)
Key: % = percent; -- community of comparison; BG = block group; CT = census tract
a. Rows shaded gray indicate the census tract or community of comparison and are not evaluated for disproportionate impacts.
b. CT 960100 (and other CT numbers in this column) is the name of a census tract, or area, designated by the U.S. Census Bureau to organize the geographical area into sections. A block group (BG) is a subset of a census tract. For example, BG 2, CT 960100 represents block group 2 of census tract 960100.
c. Together, BG 5, CT 950200 (Idaho) and BG 1, CT 951700 (Nevada) represent the Duck Valley Indian Reservation.
d. The Fort McDermitt Indian Reservation extends over two block groups: BG 1, CT 940000 in Malheur County, Oregon, and BG 1, CT 010500 in Humboldt County, Nevada. The portion of the Fort McDermitt Indian Reservation that is located in BG 1, CT 940000 in Malheur County, Oregon, has a reported population of zero, which indicates that tribal members live in the Nevada portion of the reservation.

Table 3.12-1. Overall Comparison of Alternative Combinations

Supersonic Alternative	MOAs	No Action	Subsonic Alternative 1	Subsonic Alternative 2	Subsonic Alternative 3
No Action	Paradise North Paradise South Owyhee South Jarbidge South	No change	+0 to +13.5 L_{dnmr} L_{max} 139 dB	+0 to +12.5 L_{dnmr} L_{max} 129 dB	+0 to +12 L_{dnmr} L_{max} 124 dB
	Owyhee North Jarbidge North	No change	-3 to +0 L_{dnmr} L_{max} 139 dB	-3 to +0 L_{dnmr} L_{max} 139 dB	-3 to +0 L_{dnmr} L_{max} 139 dB
Alternative A	Paradise North Paradise South Owyhee South Jarbidge South	+0 to +3 CDNL	+0 to +13.5 L_{dnmr} +0 to +3 CDNL L_{max} of 139 dB	+0 to +12.5 L_{dnmr} +0 to +3 CDNL L_{max} 129 dB	+0 to +12 L_{dnmr} +0 to +3 CDNL L_{max} 124 dB
	Owyhee North Jarbidge North	+1 to +5 CDNL	-3 to +0 L_{dnmr} +1 to +5 CDNL L_{max} 139 dB	-3 to +0 L_{dnmr} +1 to +5 CDNL L_{max} 139 dB	-3 to +0 L_{dnmr} +1 to +5 CDNL L_{max} 139 dB
Alternative B	Paradise North Paradise South Owyhee South Jarbidge South	-2 to +2 CDNL	+0 to +13.5 L_{dnmr} -2 to +2 CDNL L_{max} 139 dB	+0 to +12.5 L_{dnmr} -2 to +2 CDNL L_{max} 129 dB	+0 to +12 L_{dnmr} -2 to +2 CDNL L_{max} 124 dB
	Owyhee North Jarbidge North	-1 to +3 CDNL	-3 to +0 L_{dnmr} -1 to +3 CDNL L_{max} 139 dB	-3 to +0 L_{dnmr} -1 to +3 CDNL L_{max} 139 dB	-3 to +0 L_{dnmr} -1 to +3 CDNL L_{max} 139 dB

Key: - = minus; + = plus; CDNL = C-weighted day-night average sound levels; dB = decibels; L_{dnmr} = onset rate adjusted monthly day-night average sound level; L_{max} = maximum sound level

Potential for disproportionately high and adverse impacts to minority and low-income populations in Humboldt County, Nevada, including portions of the Fort McDermitt Indian Reservation, due to noise under the alternatives.

Other impacts

- Land use (including wilderness)
    - All alternatives would result in high impacts on remote settlements and isolated homesteads
- Biological Resources:
    - Noise levels, bird-aircraft strikes, startle effects, other physiological effects, use of chaff and flares
    - Sage grouse
- Cultural resources – Lower altitude subsonic/supersonic flights would have adverse impacts to resources near Fort McDermitt Reservation

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Questions/discussion